



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,391	04/13/2004	Alan L. Browne	H-205856	3380
<div>7590 04/29/2008</div> <div>KATHRYN A MARRA General Motors Corporation Legal Staff, Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000</div>				
EXAMINER				
JEN, MINJEN				
ART UNIT		PAPER NUMBER		
3664				
MAIL DATE		DELIVERY MODE		
04/29/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/823,391

**Applicant(s)**

BROWNE ET AL

**Examiner**

IAN JEN

**Art Unit**

3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 10-19, 26, 32, 39-46 and 49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 10-19, 26, 32, 39-46 and 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/30/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant election with traverse of species VII in the response filed on 09/1/2008 is acknowledged.

The traversal is on the grounds(s) that lacking of classification in the restriction requirement. This is not found persuasive because the species requirements do not require indication of different classifications. Furthermore, the applicant had failed to formally acknowledge for the record that the claims are obvious variant of each other, the species requirements is still proper based on the distinctiveness of the embodiments. The requirement is still deemed proper and hereby made Final.

2. Applicant election with traverse of Group III in the response filed on 09/1/2008 is acknowledged.

The traversal is on the ground(s) that the invention would require common or non-burdensome search and do not comprise independent and distinct inventions. This is not found persuasive because while there may or may not be overlapping searches for each of the defined inventions, the divergent subject matter contained in the nonelected group(s) or invention(s) would warrant significant additional consideration if addressed on the merits. Additionally, the Examiner remains of the position that the inventions as defined in the previous restriction requirement comprise distinct and independent inventions as discussed in the last Office Action. The requirement is still deemed proper and hereby made Final.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 11-19, 39-46, 49 rejected under 35 U.S.C. 102(b) as being anticipated by Koike ( US Pat Pub No 2003/00006889 ) .

As per claim 1, Koike shows a method of predicting severity of a potential collision of first and second vehicles ( Abstract, Fig 6 ), the method comprising: determining a probability of the potential collision of the vehicles ( Fig 23, Step 170; Para 0175 – 0184 ); exchanging vehicle condition-defining signals between the first and second vehicles when the probability of the potential collision is greater than a threshold value ( Fig 30, S 225; Para 0217 - 0223 ), the vehicle condition-defining signals including a first vehicle condition-defining signal developed onboard the first vehicle and a second vehicle condition-defining signal developed onboard the second vehicle ( Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 - 0100 ); predicting onboard the first vehicle a severity of the potential collision for the first vehicle based on input including the first vehicle condition-defining signal and the second vehicle condition-defining signal ( Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134 ); and predicting onboard the second vehicle a severity of the potential collision for the second vehicle based on input including the first vehicle condition-defining

signal and the second vehicle condition-defining signal ( Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134 ).

As per claim 11, koike shows the probability of the potential collision is greater than the threshold value if the first vehicle is less than a selected distance from the second vehicle ( Para 0071 -0081; Para 0110 - 0121 ).

As per claim 12, koike shows the probability of the potential collision is greater than the threshold value if the vehicles are closing on each other ( Para 0071 -0081; Para 0110 -0121 ).

As per claim 13, koike shows the probability of the potential collision is greater than the threshold value if an estimate of time until the potential collision is less than a selected time period ( Para 0071 -0081; Para 0110 -0121; Fig 4B Step22; Para 0098 - 0100 ).

As per claim 14, koike shows the threshold value indicates that the potential collision is imminent ( Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38 ).

As per claim 15, koike shows the threshold value indicates that the potential collision is nearly imminent ( Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38 ).

As per claim 16, koike predicting the severity of the potential collision for the first vehicle includes estimating the order of potential collision occurrence when potential collisions

with more than one vehicle are predicted for the first vehicle ( Para 0071 -0081; Para 0110 - 0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 - 0156 ).

As per claim 17, koike shows predicting the severity of the potential collision for the first vehicle includes estimating vehicle trajectory after the potential collision ( Para 0143 – 0157 ).

As per claim 18, koike shows predicting the severity of the potential collision for the first vehicle includes estimating the location of impact on the first vehicle ( Para 0143 – 0157 ).

As per claim 19, koike shows the vehicle condition-defining signals are developed in response to one or more of vehicle geographic position data, vehicle onboard sensor data, stored vehicle identification data, and pre-collision sensor data ( Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 – 0156, Para 0182; sensor section 218 ).

As per claim 39, koike shows a method of predicting severity of a potential collision of first and second vehicles (Abstract, Fig 6 ), the method comprising: determining a probability of the potential collision of the vehicles ( Fig 23, Step 170; Para 0175 – 0184 ); developing a first vehicle condition-defining signal for the first vehicle in response to one or more of first vehicle geographic position data, first vehicle on-board sensor data, first stored vehicle identification data, and first vehicle pre-collision sensor data ( Fig 30, S 225; Para 0217 - 0223 ); and transmitting the first vehicle condition-defining signal to the second vehicle when the probability of the potential collision is greater than a threshold value; and predicting onboard the first

vehicle a severity of the potential collision for the first vehicle when the probability of the potential collision is greater than a threshold value ( Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 - 0100; Fig 6, Fig 8, Step 36 - 38; Fig 10, Step 52 - 54; Fig 16, Step 110 - 112; Para 0116 - 0121; Para 0129 - 0134; Para 0143 - 0157 ), wherein input to the predicting includes one or more of the first vehicle geographic position data, the first vehicle on-board sensor data, the first stored vehicle identification data, and the first vehicle pre-collision sensor data ( Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 - 0100; Fig 6, Fig 8, Step 36 - 38; Fig 10, Step 52 - 54; Fig 16, Step 110 - 112; Para 0116 - 0121; Para 0129 - 0134; Para 0143 - 0157 ).

As per claim 40, koike shows receiving a second vehicle condition-defining signal from the second vehicle, wherein the input to the predicting further includes the second vehicle condition-defining signal ( Fig 3, Fig 1, other vehicle; Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 - 0127; Para 0152 - 0156, Para 0182; sensor section 218 ).

As per claim 41, koike shows the probability of the potential collision is greater than the threshold value if the second vehicle is detected by the first vehicle and wherein the first vehicle condition-defining signal for the first vehicle announces the presence of the first vehicle to the second vehicle ( Para 0064 - 0080; Para 0097 - 0100; Fig 6, Fig 8, Step 36 - 38; Fig 10, Step 52 - 54; Fig 16, Step 110 - 112; Para 0143 - 0157 ).

As per claim 42, koike shows threshold value if the potential collision is predicted to occur within a selected time period and wherein the first vehicle condition-defining signal for the

first vehicle announces the presence of the first vehicle to the second vehicle ( Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 - 0100; Fig 6, Fig 8, Step 36 - 38; Fig 10, Step 52 - 54).

As per claim 43, koike shows developing a first vehicle condition-defining signal for the first vehicle occurs when the probability of the potential collision is greater than a threshold value ( Fig 30, S 225; Para 0217 - 0223 ).

As per claim 44,koike shows developing a first vehicle condition-defining signal for the first vehicle occurs on a continuous basis while the first vehicle is being operated ( Fig 33, 34; Para 0068 - 0080 ).

As per claim 45, koike shows a method of predicting severity of a potential collision of first and second vehicles (Abstract, Fig 6 ), the method comprising: determining a probability of the potential collision of the vehicles ( Fig 23, Step 170; Para 0175 - 0184 ); exchanging vehicle condition-defining signals between the first and second vehicles when the probability of the potential collision is greater than a threshold value ( Fig 30, S 225; Para 0217 - 0223 ), the vehicle condition-defining signals including a first vehicle condition-defining signal and a second vehicle condition-defining signal ( Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 - 0100 ); predicting a severity of the potential collision for the first vehicle based on input including the first vehicle condition-defining signal and the second vehicle condition-defining signal ( Fig 6, Fig 8, Step 36 - 38; Fig 10, Step 52 - 54; Fig 16, Step 110 - 112; Para 0116 - 0121; Para 0129 - 0134 ); and predicting a severity of the potential collision for the second vehicle based on input including the first vehicle condition-defining signal and the second



vehicle condition-defining signal ( Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134 ).

As per claim 46, koike shows one or more of the determining, exchanging, predicting a severity of the potential collision for the first vehicle, and predicting a severity of the potential collision for the second vehicle is performed by a system that is remote to at least one of the first vehicle and the second vehicle ( Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134 ).

As per claim 49, koike shows an apparatus for use onboard a first vehicle for predicting severity of a potential collision of the first vehicle and a second vehicle ( Abstract, Fig 6, Fig 1, ECU 12 ), the apparatus comprising: means for determining a probability of a potential collision between the first and second vehicles; means responsive to the determining for transmitting a first vehicle condition-defining signal developed onboard the first vehicle to the second vehicle when the probability of the potential collision is greater than a threshold value ( Fig 23, Step 170; Para 0175 – 0184, Fig 2, Fig 3 ); means for receiving from the second vehicle a second vehicle condition-defining signal developed onboard the second vehicle ( Fig 1, 16, Fig 4A, Fig 4B; Para 0064 - 0080; Para 0097 – 0100; Fig 2, Fig 3, Fig 5 ); and means for processing the first vehicle condition-defining signal and the second vehicle condition-defining signal for predicting the severity of the potential collision ( Fig 6, Fig 8, Step 36 – 38; Fig 10, Step 52 – 54; Fig 16, Step 110 – 112; Para 0116 – 0121; Para 0129 – 0134; Fig 2, Fig 3, Fig 5 ).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10,26,32 rejected under 35 U.S.C. 103(a) as being unpatentable over Koike ( US Pat Pub 2003/0006889 ) in view of Ochi et al ( US Pat No 5913910 ).

As per claim 10, koike does not show input to the determining includes driver state data. Ochi et al shows input to the determining includes driver state data ( Abstract, Col 5, lines 22- Col 6, lines 24 ).

It would have been obvious for one of ordinary skill in the art, to provide the driver state data, as taught by Ochi et al, to Koike, in order to provide basic mobile driving input information.

As per claim 26, koike shows the probability of the potential collision is greater than the threshold value ( Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 – 0156, Para 0182; sensor section 218 ), command responsive to the severity of the potential collision for the first vehicle ( Para 0071 -0081; Para 0110 -0121; Fig 8, Step 38; Para 0134 – 0127; Para 0152 – 0156, Para 0182; sensor section 218 ). Koike does not show transmitting a command to set a control on an occupant protection device on the first vehicle.

Ochi et al shows transmitting a command to set a control on an occupant protection device on the vehicle ( abstract; Fig 2, brake controller 219, transmission controller 218, ignition timing controller 216; Fig10, Col 5, liens 10 – Col 6,lines 25 ).

It would have been obvious for one of ordinary skill in the art, to provide protection device as taught by Ochi et al, to koike, in order to avoid potential collision.

As per claim 32, Ochi et al shows a command to an occupant protection device, the command responsive to the probability of the potential collision (abstract; Fig 2, brake controller 219, transmission controller 218, ignition timing controller 216; Fig10, Col 5, liens 10 – Col 6,lines 25; Fig 8, step 804 - 808; Col 4, lines 25 - 65 ).

It would have been obvious for one of ordinary skill in the art, to provide protection device as taught by Ochi et al, to koike, in order to avoid potential collision.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN JEN whose telephone number is (571)270-3274. The examiner can normally be reached on Monday - Friday 9:00-6:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3664

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ian Jen/

Examiner, Art Unit 3664

/Khoi H Tran/

Supervisory Patent Examiner, Art Unit 3664